

NITFS CTE FACILITY

The NITFS CTE Facility's capabilities include:

- ◆ Modern test laboratories.
- ◆ Windows/UNIX workstations with ancillary devices.
- ◆ Automated test tools for:
 - ◆ Computer Graphics Metafile (CGM)
 - ◆ Tactical Communications (TACO2)
 - ◆ Compression Algorithm (JPEG, Bi-Level, and VQ)
 - ◆ NITF file headers and imagery evaluation
- ◆ Ability to perform bit-by-bit analysis of NITF files.
- ◆ Capability to fabricate and test interface devices.
- ◆ Capability to interface into tactical, strategic, and commercial switching testbeds:
 - ◆ C2, Data Switching, Circuit Switching, FDDI, ATM, Analog and Digital Transmission Systems
 - ◆ Wide variety of COMSEC equipment

TEST SERVICES

Test services are available to both government and commercial concerns. For more information on NITFS compliance testing, scheduling, test documents, and test submission forms, please contact:

Joint Interoperability Test Command
NITFS Test & Evaluation Facility
ATTN: JTDB
2001 Brainard Road, Building 57305
Fort Huachuca, AZ 85613-7051

NITFS Test Facility:

DSN 879-5458
(520) 538-5458
FAX DSN 879-5257
(520) 538-5257

e-mail: jiten@fhu.disa.mil



NITFS STANDARDIZATION

Defense Information Systems Agency (DISA)
Center for Standards
ATTN: JEBCE
10701 Parkridge Boulevard
Reston, VA 22091-4398
Phone (703) 735-3230
FAX (703) 735-3575

NITFS PROGRAM MANAGEMENT

National Imagery & Mapping Agency (NIMA)
ATTN: AP/PIC
12310 Sunrise Valley Drive
Reston, VA 20191-3449
Phone (703) 262-4416

Joint Interoperability Test Command
2001 Brainard Road, Building 57305
Fort Huachuca, AZ 85613-7051

1-800-LET-JITC
<http://jitc.fhu.disa.mil>

Increasing Combat Effectiveness
Through Interoperability

NATIONAL IMAGERY TRANSMISSION FORMAT STANDARD (NITFS)



Joint Interoperability Test Command

WHAT IS NITFS?

The National Imagery Transmission Format Standard (NITFS) is the designated standard for formatting and exchanging digital imagery and imagery-related products within the Department of Defense and among members of the Intelligence Community.

NITFS SUITE OF STANDARDS

MIL-HDBK-1300A	NITFS
MIL-STD-2500A	NITF Version 2.0
MIL-STD-2500B	NITF Version 2.1
MIL-STD-188-196	Bi-level Image Compression for the NITFS
MIL-STD-188-197A	ARIDPCM Image Compression for the NITFS
MIL-STD-188-198A	JPEG Image Compression for the NITFS
MIL-STD-188-199	Vector Quantization Decompression for the NITFS
MIL-STD-2301A	CGM Implementation Standard for the NITFS
MIL-STD-2045-44500	TACO2 for the NITFS
MIL-STD-6040	US Message Text Format

NITF BACKGROUND

The NITFS is the collaborative result of a US Government and Industry effort to provide a common facility for exchanging imagery, imagery derived information, and associated geospatial metadata. The purpose of the NITFS is to provide a common standard for the exchange and storage of files composed of images, symbols, text, and associated data. Technical review, community coordination, and overall planning of the NITFS have been accomplished through the NITFS Technical Board (NTB) and its ad-hoc working groups, the Format Working Group (FWG), Bandwidth Compression Working Group (BWCWG), and Communications Working Group

(CWG). The NTB has evolved over the years into a true consensus-based forum emphasizing cooperation and partnership between government and industry. The NTB operates under the joint authority of the Imagery & Geospatial Standards Management Committee (ISMC/GSMC), which is responsible for the selection and management of imagery and geospatial standards for the DOD, Intelligence Community, and the overall USIGS community.

NITF Version 1.1 was approved for general implementation in 1990. Compliance tests were conducted on 142 system configurations representing 30 separately named products built by 24 developers. NITF version 2.0 began fielding in 1994. Over 222 compliance tests have been conducted to date. NITF version 2.1 became available for implementation in October 1998. To date, over 109 NITF system configurations have been tested for version 2.1 compliance. NITF 2.1 added updated security features, improved geospatial support, multi-spectral imagery, and complex data formats.

The NITF has now been established as an International Standard, (ISO/IEC 12087-5), Basic Image Interchange Format (BIIF). Implementation profiles of BIIF are being established for the US DOD, USGS, NATO (STANAG 4545), and for nations participating in the "open skies" treaty.

NITFS CHARACTERISTICS, FEATURES, AND CAPABILITIES

Provides universal features and functions without requiring commonality of hardware or proprietary software.

- ◆ Sync and Async communication support capability.
- ◆ Multi-levels of implementation capability.
- ◆ Variable image sizes and resolution.
- ◆ Nondestructive image insets/overlays.
- ◆ Image compression using international standards.
- ◆ Nondestructive symbol and textual annotation of imagery.
- ◆ ISO/IEC CGM graphics.
- ◆ Text files to convey information about the image.

- ◆ Extended imagery support and archive data.
- ◆ Capability to uniquely classify each element within a file.
- ◆ ISO/IEC JPEG Compression.

NITFS COMPLIANCE TEST PROGRAM

The NIMA oversees the NITFS T&E Program to verify NITFS compliance. Compliance registration is accomplished through a series of tests that verify a digital imagery system's ability to pack imagery, graphics, text, and associated data in the NITF file format; and interpret/display/unpack NITF formatted imagery, graphics, text, and associated data. The JITC has established the NITFS Compliance Test and Evaluation (CTE) Facility to support the compliance testing program and to perform other NITFS related testing services. Detailed information is contained in NIMA N-0105/98, NITFS Standards Compliance and Interoperability Test and Evaluation Program Plan.

NITFS COMPLIANCE CRITERIA

Digital imagery systems will be tested for compliance with the implementation requirements of the NITFS. The test criteria are specified in the NIMA N-0105/98, NITFS Standards Compliance and Interoperability Test and Evaluation Program Plan.

- ◆ Single and multi-band imagery ranging from 1x1 to 64Kx64K pixels; 1, 8 to 16, 24, 32, and 64 bits-per-pixel.
- ◆ Compress imagery using JPEG, Bi-Level and VQ compression.
- ◆ Generate/Interpret/Display symbol and textual annotations.
- ◆ Prepare/Access text files associated with the imagery.
- ◆ Generate/Interpret extended imagery support data.
- ◆ Send/Receive compliant NITF files using TACO2 point-to-point or via a suite of communication strings.